

CALIFORNIA ENERGY COMMISSION

1516 NINTH STREET
SACRAMENTO, CA 95814-5512



December 5, 2002

Mr. Leslie J. Ward
General Manager, Pico Power Project
1601 Civic Center Drive, Suite 202
Santa Clara, CA 95050

Dear Mr. Ward:

RE: PICO POWER PROJECT DATA REQUESTS

Pursuant to Title 20, California Code of Regulations, section 1716, the California Energy Commission requests the information specified in the enclosed data requests. The information requested is necessary to: 1) more fully understand the project, 2) assess whether the facility will be constructed and operated in compliance with applicable regulations, 3) assess whether the project will result in significant environmental impacts, 4) assess whether the facilities will be constructed and operated in a safe, efficient and reliable manner, and 5) assess potential mitigation measures.

These data requests are being made in the area of: Air Quality (#1-14); Biology (# 15-22); Cultural Resources (#23-29); Geology (#30-31); Land Use (#32-41); Traffic and Transportation (#42-43); Visual Resources (#44-52); and Soil and Water Resources (#53-65). Because this AFC is being processed under the 6-month expedited review process, we are asking that you supply your responses within 20 days. Accordingly, written responses to the enclosed data requests are due to the Energy Commission staff on or before December 26, 2002, or at such later date as may be mutually agreed upon.

If you are unable to provide the information requested, need additional time, or object to providing the requested information, please send a written notice to the Committee and me within 10 days of receipt of this notice. The notification must contain the reasons for the inability to provide the information or the grounds for any objections (see Title 20, California Code of Regulations, section 1716 (f)).

If you have any questions regarding the enclosed data requests, please call me at (916) 654-4067.

Sincerely,

MATT TRASK
Energy Facility Siting Project Manager

Enclosure

cc: Docket (02-AFC-3)
Proof of Service List (Interested Parties/Agencies)

PICO POWER PROJECT (02-AFC-03)
DATA REQUESTS

Technical Area: Air Quality

Author: Gabriel D. Taylor

Senior: Keith Golden

BACKGROUND

The applicant presented estimates of the maximum impacts from the proposed project based on the Industrial Source Complex Short Term version 3 (ISCST3) air quality model. Staff believes that the presented impact estimates are based on input data that may be erroneous.

DATA REQUEST

1. Please resolve all of the following Air Quality Data Requests (Data Requests 2 through 10), and then prepare a revised modeling analysis that incorporates all documented changes to the model input parameters. In any revised modeling analysis, please include startup and shutdown emission scenarios in this revised modeling analysis.

BACKGROUND

A number of emissions estimate tables in the AFC appear to be inconsistent.

DATA REQUEST

2. Table 8.1-14 reports maximum lb/MMBtu values for each turbine with duct burners in operation, however it appears that the heat input rate reported in Table 8.1-15 for the turbines without duct burners was mistakenly used in the calculation. Please correct Table 8.1-14.
3. Please indicate if the erroneous lb/MMBtu values from Table 8.1-14 were used in any further calculations or in the ambient modeling for the facility.
4. Section 8.1.5.1 on page 8.1-22 reports that the heat rate of the duct burners will be 136.9 MMBtu/hr however Table 8.1-15 seems to indicate that the duct burners will have a heat rate of 273.8 MMBtu/hr (1221.1 – 947.4). Please clarify what the heat rate of the proposed duct burners will be.
5. Please clarify if the two values reported in Table 8.1-15 are correct, and how they are calculated given the duct burner heat rate.
6. Cooling tower Total Dissolved Solids (TDS) is reported as 5,880 ppm in Table 8.1A-6, and as 3,745 ppm in section 8.1.5.1 on page 8.1-22. Please clarify the correct TDS level for the cooling towers.
7. Please indicate if an erroneous TDS value from either Table 8.1A-6 or section 8.1.5.1 was in any further calculations or in the dispersion modeling analysis for the facility.
8. The “Maximum facility startup/shutdown emissions rates” presented in Table 8.1-16 do not appear to be consistent with the “Startup and Shutdown Emission Values for the LM6000-PC Turbine” presented in Table 8.1A-1. Please clarify how the values in the two tables are related.

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9. Table 8.1-19 lists the ISCST3 input data, however the input values do not appear to reflect startup or shutdown emissions. Please indicate if the prepared impact modeling analysis includes startup and shutdown emissions.
10. In Table 8.1-19, the one-hour NOx number presented is less than the annual average number. Please provide a detailed explanation of how these values are calculated.

BACKGROUND

If built as proposed, the project will add approximately 60,800 lbs per year of PM10 to the Bay Area Air Basin. Since the air basin already experiences violations of the state PM10 AAQS, and is thus classified as nonattainment for that standard, this addition will contribute to existing violations, which staff considers a significant impact. Although the Bay Area Air Basin is classified as nonattainment for the state PM10 AAQS, the project will not be required by the BAAQMD to provide offsets because the quantity emitted is below the district's Offset Threshold of 100 tons per year (as set by district rule). A PM10 mitigation plan was thus required under §2022(b)(2)(C) of the six month expedited data adequacy process.

The applicant proposed a PM10 mitigation plan in the "Supplement in Response to Data Adequacy Comments" dated November 2002. The PM10 mitigation plan outlined was modeled after the PM10 mitigation plans previously approved by the commission for the Los Esteros and Russell City projects. Under those plans, it was determined that ambient PM10 is generally a seasonal problem, where ambient violations of the state PM10 AAQS predominantly occurring during the fall and winter quarters. Since this is only half the year, the applicants were only responsible for mitigating half of their projects total annual emissions of PM10. For PPP, this corresponds to 30,400 lbs per year, as indicated in the November 2002 PPP Supplement, however the quantity of emissions reductions proposed is not enough to fully mitigate these emissions. By staff's calculations, the applicant's proposed mitigation program would produce only 12,100 lbs per year of PM10 emissions reductions.

The applicant also contends in their November, 2002 submittal (p. S-10) that their PM10 plan (replacement fireplace program) would result in a SO2 emission reduction, yet they do not quantify or substantiate that reduction.

DATA REQUEST

11. Please submit a revised PM10 Mitigation Plan that includes detailed calculations of the quantities of emissions (PM10, SO2 and VOC) reductions achieved by the plan. Please include a detailed account of all assumptions, all equations used and a complete list of references.
12. Please provide a letter from the Bay Area Air Quality Management District indicating that agency's willingness to participate in the PM10 Mitigation Plan to the extent necessary.

BACKGROUND

The applicant proposes a BACT level of 2.5 ppm for NOx (Oxides of Nitrogen) and 4.0 for CO (Carbon Monoxide). Recent permitting experience for this class or category of sources

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(combined cycle combustion turbines) indicates that the NOx BACT should be 2 ppm averaged over 1 hour and the CO BACT should be 2.0 ppm averaged over 3 hours.

DATA REQUEST

13. Please provide a BAAQMD specified BACT analysis that considers a NOx BACT of 2.0 ppm averaged over 1 hour.
14. Please provide a BAAQMD specified BACT analysis that considers a CO BACT of 2.0 ppm averaged over 3 hours.

PICO POWER PROJECT (02-AFC-03)
DATA REQUESTS

Technical Area: Biological Resources

Author: Stuart Itoga

Technical Senior: Jim Brownell

BACKGROUND

Serpentine soils support a variety of serpentine endemic plants, some of which the bay checkerspot butterfly depends on for its survival. Serpentine soils are characterized by a low calcium to magnesium ratio, high concentration of heavy metals and lack of essential nutrients (e.g. potassium, phosphorous, nitrogen). In the San Francisco Bay area, serpentine soils provide habitat for a variety of state and federally listed species, including the bay checkerspot butterfly (butterfly).

Nitrogen is the primary limiting nutrient for plant growth on serpentine soils, and there is a growing body of scientific evidence that NO_x emissions from wood burning and fossil fuels combustion are contributing to nitrogen enrichment of nitrogen poor serpentine soils. The addition of nitrogen to serpentine soils is contributing to the propagation of nitrogen fixing non-native grasses which out-compete serpentine endemic plants. The nitrogen deposition rate considered sufficient to affect ecosystem structure and diversity is 3 to 10 kg/ha-yr. Annual nitrogen deposition estimates derived for licensing of the Metcalf Energy Center estimated the nitrogen deposition rate, for the Santa Clara Valley, to be 8.4 kg/ha-yr. This indicates the area has levels of nitrogen deposition currently in excess of the threshold.

In several Commission siting cases (Metcalf Energy Center, Los Esteros Critical Energy Facility, and Otay Mesa Generating Company), it was decided that the Industrial Source Complex Short Term Version 3 (ISCST3) model was the best model for use in assessing the potential impacts from nitrogen deposition to sensitive habitats.

DATA REQUEST

15. Provide a detailed discussion of the types of NO_x emissions expected from commissioning and commercial operation of the proposed project.
16. Discuss the chemical reactivity of each NO_x constituent (include the ammonia slip expected from the use of Selective Catalytic Reduction) in the context of local meteorological and topographical conditions (e.g. what reactions will occur and how long will these reactions take given the conditions at the site and at the areas of butterfly habitat potentially impacted. Include the source, or sources for all information provided.
17. Provide a detailed discussion of what activities are necessary for initial commissioning (operation of turbines etc. prior to start of commercial operation) of the proposed project. Include in the discussion the amount of time turbines will be in operation without the use of Selective Catalytic Reduction. Discuss the types and amounts of NO_x emissions expected from initial commissioning activities in the units tons per year and kilograms per hectare per year.
18. Provide a worst case analysis of the proposed project's potential cumulative nitrogen deposition impacts to designated bay checkerspot butterfly critical habitat. Expansion

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of the San Jose Airport has been approved, and projected population growth for the Santa Clara Valley would increase auto travel along local highways, including Highway 101, and Central Expressway. Include in the cumulative impacts analysis the projected increases in numbers of jet aircraft flights (and corresponding NO_x emissions) expected from expansion of the San Jose Airport and the expected increases in NO_x emissions from operation of the Metcalf and Los Esteros projects. Using the ISCST3 model, provide deposition values in tons per year and kilograms per hectare per year. Provide an isopleth graphic of the direct deposition values over USGS 7.5 minute quadrangle maps.

BACKGROUND

The U.S. Fish and Wildlife Service (USFWS) has designated critical habitat for the bay checkerspot butterfly. The NO_x emissions from the proposed project could adversely affect 12 critical habitat units. Of these 12 critical habitat units, 10 currently support butterfly populations and some are in degraded condition. However, designation of critical habitat was not based exclusively on the presence of serpentine soils but on the presence of physical and biological features, including serpentine soils, essential to the conservation and recovery of the butterfly. The Kirby unit supports one of the largest bay area populations of the butterfly, and both the Metcalf and San Felipe units support significant bay checkerspot populations.

DATA REQUEST

19. Using the ISCST3 model, provide a worst case analysis of the nitrogen deposition from NO_x emissions expected from commissioning and commercial operation. Provide isopleth graphics using USGS 7.5 minute quadrangle maps of direct deposition values from NO_x emissions on the following critical habitat units: Bear Ranch, Communication Hill, Kalana Hills, Kirby, Morgan Hill, Metcalf, San Felipe, Silver Creek, San Vicente-Calero, Santa Theresa Hills, San Martin, and Tulare Hill.
20. Using the ISCST3 model, provide a worst case analysis of the ammonia slip from the exhaust stacks. Model the ammonia slip separately from NO_x emissions expected from commissioning and commercial operation of the LM6000 turbines. Provide isopleth graphics, using USGS 7.5 minute quadrangle maps, of direct deposition from the ammonia slip on the following critical habitat units: Bear Ranch, Communication Hill, Kalana Hills, Kirby, Morgan Hill, Metcalf, San Felipe, Silver Creek, San Vicente-Calero, Santa Theresa Hills, San Martin, and Tulare Hill.
21. Provide complete ISCST3 input files used to model nitrogen deposition on critical habitat for the bay checkerspot butterfly.

BACKGROUND

The Don Edwards San Francisco Bay National Wildlife Refuge (a Class II area) is approximately 3.6 miles north of the proposed project. The AFC does not contain an analysis of potential impacts from nitrogen deposition to the Don Edwards San Francisco Bay National Wildlife Refuge.

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DATA REQUEST

22. Provide a table of potential nitrogen deposition on the Don Edwards San Francisco Bay National Wildlife Refuge in the units kilograms per hectare per year. Include in the table the SO₂ and PM₁₀ deposition levels and the Class II NAAQS and PSD thresholds for the area.

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Technical Area: Cultural Resources

Author: Dorothy Torres

If a response reveals archaeological site locations, please submit it under confidential cover.

BACKGROUND

The applicant sent letters describing the project to Native Americans on June 10, 2002. The letters and the map that accompanied them did not describe or illustrate the wastewater pipeline or the gas compressor station. It is necessary that the entire project be represented in letters to Native Americans.

DATA REQUEST

23. Please send an additional letter to the Native Americans on the list provided for the project area by the Native American Heritage Commission (NAHC). Include information regarding the location of the wastewater pipeline route and the gas compressor station. Add the location of the wastewater pipeline and the gas compressor station to the map that was previously included in the original letters sent to Native Americans. Provide copies of the second round of letters to staff.

BACKGROUND

Page 1-2 of the AFC provides information that the Newark-Kifer transmission line will be relocated as two monopole towers from the center of the PPP site to its western margin. The existing Newark-Kifer-San-Jose B conductors will be placed underground between the relocated tower and the Kifer Receiving Station.

DATA REQUEST

24. Please clarify the amount and type of off-site ground disturbance associated with the undergrounding of this transmission line. Please describe the off-site ground disturbance expected as a result of relocating this line. What sort of excavation will be necessary? Please provide the length, width and depth of any proposed excavation?
25. Please survey the proposed disturbance area for archaeological resources and provide the results. Please conduct a pedestrian survey at least 25 feet around the area to be disturbed to allow for potential impacts from equipment and vehicles.

BACKGROUND

Page 1-2 of the AFC says that the existing SVP NAJ-Kifer 60kV line, located on the west side of the former Pico right-of-way will be relocated to the eastern edge of the PPP.

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DATA REQUEST

26. If this line is more than 45 years old, at a minimum, please provide a DPR 523 form A & B. Please ensure that the B portion of the form is completed by someone who meets the Secretary of Interior's Professional Qualifications Standards for history.
27. If this line is more than 45 years old, please add it to Fig 8.3-S1, Cultural Resources Location Map.

BACKGROUND

DPR forms A and B were provided for Newark-Kifer 115kV Transmission Line. Pursuant to page 9 of the "Instructions for Recording Historical Resources" published by the Office of Historic Preservation, "responsibility for an evaluation must be taken by persons meeting the Secretary of the Interior's Professional Qualifications Standards in a discipline appropriate to the historic context within which the resource is being considered."

DATA REQUEST

28. Please provide a copy of DPR form B that has been completed by someone who meets the Secretary of the Interior's Professional Qualifications Standards in history.

BACKGROUND

Page 2-27 of the AFC describes four laydown and/or parking areas. All four of them are described as graveled, chip sealed or paved.

DATA REQUEST

29. Will there be any improvements to any of these areas? Specifically, will there be any grading, trenching, or other forms of ground disturbance for any reason? Please describe any ground disturbance at these locations.

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DATA REQUESTS

Technical Area: **Geology**

Author: Dr. Patrick Pilling, P.E., G.E.

BACKGROUND

Appendix 10-G, Geotechnical Report, identifies several plates and appendices as attachments to the report. The plates (Plate 1 and Plate 2), as well as the appendices (Appendix A, B, C, D, and E), are not included in Appendix 10-G. The information contained in these items is necessary to adequately evaluate geotechnical site constraints.

DATA REQUEST

30. Please provide a copy of Plates 1 and 2, as well as Appendices A, B, C, D, and E, and references for review.

BACKGROUND

The AFC references a report titled *Geotechnical Investigation, Lafayette Street Substation, Santa Clara, California*, dated July 1986 and prepared by Terratech, Inc. Information contained in this report would be a useful supplement to the geotechnical information for this site.

DATA REQUEST

31. Please provide a copy of the July 1986 Terratech report for review.

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DATA REQUESTS

Technical Area: Land Use

Author: David Flores

BACKGROUND

The applicant has stated that the existing site consists of nine individual legal parcels and that Silicon Valley Power has filed a reversion to acreage request to the City of Santa Clara to create three separate parcels. Energy Commission staff needs to know whether the application has been filed with the City of Santa Clara.

DATA REQUEST

32. Please provide additional information regarding the status of the application request before the City for the Property Acquisition Request to create three separate legal parcels.
33. Please provide the new legal description and revised parcel map describing the newly created parcels.

BACKGROUND

The applicant has stated (AFC pg. 8.6-13) that a planned street that was known as Pico Way crosses the Pico power plant site. Pico Way's status as a public street was abandoned when Duane Avenue was extended to the east to make an intersection with Lafayette Street. Pico Way has not been legally abandoned as a public street, but the applicant has stated that the City of Santa Clara is processing a City Council resolution to legally abandon this length of road.

DATA REQUEST

34. Please provide a copy of the City of Santa Clara Resolution approving the abandonment of Pico Way, which crosses the power plant site.

BACKGROUND

A review of Figure 2.2-2a & 2b (Plot Plan) and the other portions of the project description in the application did not provide enough information to indicate how the project relates to the proposed project site and local agency regulatory requirements. City of Santa Clara Development Code provisions require that there be landscaping and building setbacks, adequate street right-of-way and street improvements as necessary. Since the two diagrams (i.e., 2.2-2a & 2.2-2a) are inconsistent it is difficult to ensure compliance with City standards.

DATA REQUEST

35. Revise Figures 2.2-2a & 2b Plot Plan in the application to provide the following:
 - a) Location of all existing exterior lot lines with distances to existing and proposed structures.
 - b) Location of the centerlines of Duane Avenue, Lafayette Street and Comstock Street with distances to existing, exterior property lines.
 - c) Location of existing and proposed curbs and gutters with distances to exterior property lines.

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- d) Locations with distances for any areas of building setback that will be landscaped.

BACKGROUND

The City of Santa Clara Sign Ordinance (Article 40) governs the size, location, and type of signs permitted on the project site. The AFC provides no indication of the signs proposed by the applicant. It is not possible to demonstrate compliance with the City Zoning ordinance from existing data submitted.

DATA REQUEST

- 36. Provide a sign program that includes the following:
 - a) The location, size and number of all signs proposed.
 - b) The materials that will be used to construct the signs.
 - c) The lighting technique that will be used for the signs.
 - d) The height of all proposed signs.
 - e) The type of signs to be used (For example, a monument sign or a building mounted sign).
 - f) If signs will be located on buildings identify the distance from the surface of the sign to the surface of the structure to which it will be attached.
 - g) An architectural rendering of all signs proposed.
 - h) The content of each sign proposed.

BACKGROUND

The City of Santa Clara Development Code restricts lot coverage in the Heavy Industrial District that includes the project site. The site plan does not provide calculations of the site area and the aerial extent of proposed roofed structures. This data is required to evaluate project compliance with zone lot coverage requirements.

DATA REQUEST

- 37. Provide calculations to show the project's consistency with the City of Santa Clara's Heavy Industrial District lot coverage standards with respect to:
 - a) The aerial extent of the project site (i.e., the entire ultimate legal parcels proposed for development) in square feet.
 - b) The aerial extent of proposed and existing structures with roofs in square feet.

BACKGROUND

The City of Santa Clara Sign Regulations (Article 40) requires one parking space for each three employees on the maximum shift plus one space for each vehicle permanently assigned to the facility. The Code also requires loading spaces shall be designed so as not to interfere with required parking access and circulation. Materials submitted by the applicant do not illustrate the location and number of parking spaces. These data are necessary to ensure compliance with City standards.

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DATA REQUEST

38. Provide the location, layout and numbers of parking spaces to be developed on the site. This information may be included in the revised Figures 2.2-2a and 2b Plot Plan, or in a separate, related exhibit.
39. Delineate the location and dimensions of the loading dock in the revised Figures or the separate exhibit.
40. Specify the minimum vertical clearance over the loading space.

BACKGROUND

The applicant has indicated that the existing bicycle/pedestrian walkway that connects Gianera Street and Wilcox Avenue will have to be realigned in the area of the natural gas metering station to accommodate the structure.

DATA REQUEST

41. Please provide a copy of the recorded legal description and plot map depicting the realigned bicycle/pedestrian walkway in the area of the metering station.

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DATA REQUESTS

Technical Area: Traffic and Transportation

Author: James Adams

BACKGROUND

In a previous siting case, staff encountered traffic mitigation measures that were more complex than originally envisioned. This was due to a lack of communication between the applicant and the applicable state and local transportation agencies. In addition, a road that could have been used for transporting workers during project construction had a hazardous configuration that required an alternative route be developed. The mitigation upgrades to the new route were not approved by the various jurisdictions for well over a year after the Commission granted the construction permit.

The traffic and transportation of the AFC (Section 8.12) does not include a discussion of personal communications with Caltrans, or the City of Santa Clara planning department. Section 8.12.2.3 discusses the installation of the natural gas line and notes that traffic management plans will be filed with the City of Santa Clara as part of the encroachment permit approval process. Again, it is unclear whether Caltrans or the City has or will have any prior input.

DATA REQUEST

42. Please identify and describe any communications between the applicant's staff and consultants and Caltrans, the City of Santa Clara, or other applicable agencies.
43. Has any agency reviewed or commented, verbally or in writing, on the traffic impacts related to the construction or operation of the PPP? Have any potentially significant adverse impacts on any of the local roads or highways been identified?

PICO POWER PROJECT (02-AFC-03)
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Technical Area: Visual Resources

Author: Eric Knight and William Walters

BACKGROUND

Staff will need electronic copies of figures presented in the AFC, the Data Adequacy Supplement, and in response to these data requests, so the figures may be reproduced in the Staff Assessment.

DATA REQUEST

44. Please provide a CD containing high-resolution, electronic versions of Figure 1.1-1 (Architectural Rendering), and Figures 8.13-4a through 8.13-9b (the 11"x17" formatted existing view photographs and computer simulations), as revised by the following data requests.

BACKGROUND

AFC Section 8.13.2.3 describes the landscaping and screening structures (walls) proposed for the project. Landscaping would be installed within the setback and right-of-way areas along Duane Avenue and Lafayette Street. No landscaping is proposed along the north and west sides of the project site. The AFC does not discuss the species to be planted or their times to maturity. Perimeter walls, as required by the City of Santa Clara Zoning Ordinance to mitigate visual impacts, would be constructed around three sides of the project site. Twenty five-foot and 15-foot high walls are proposed along the north and west property lines, respectively, and 20-foot and 8-foot high walls are proposed on the northeast and east sides of the project site. According to AFC Table 8.13-5, the City of Santa Clara Zoning Ordinance requires landscaping around the foundation of walls. In addition, the zoning ordinance requires that mechanical and other equipment must be screened from view from public rights-of-way and nearby properties.

The proposed landscaping and screening walls apparently may not entirely screen the project (which is essentially "mechanical equipment") from public rights-of-way and nearby properties, as indicated by KOPs 1, 3, 4, 5, and 6. In addition, as shown by the simulation at KOP 2, the mature grove of evergreen elm trees currently on the site would be replaced by the cooling tower structure and warehouse building, which may result in a potentially significant impact to the view from Lafayette Street. If Staff's analysis determines there is a significant impact, the proposed trees may not be effective in screening the project structures.

DATA REQUEST

45. Please discuss the feasibility of alternative screening options, such as offsite landscaping and architectural screens to conceal the industrial elements of the heat recovery steam generators (HRSGs), consistent with the City of Santa Clara Zoning Ordinance. The discussion should address the possibility of planting trees within the setback area between Lafayette Street and the Kifer Receiving Station and the use of onsite architectural screens to conceal views of the upper portions of the HRSGs from public rights of-way, including Lafayette Street (KOPs 1 and 6), Laurelwood Drive

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(KOP 3), and Highway 101 (KOP 4), and nearby properties (KOP 5). If it is feasible to plant trees offsite and/or use architectural screens, please revise the simulations accordingly. Please provide high quality 11" x 17" color images.

46. Please discuss the feasibility of planting landscaping along the walls proposed on the north and west boundaries of the site to soften the appearance of these walls (which appears to be a requirement of the City of Santa Clara Zoning Ordinance) and to increase the screening of the project structures. If it is feasible to install landscaping along the north and west boundaries, please revise the simulation for KOP 3 to depict the plantings. Please provide a high quality 11" x 17" color image.
47. Please discuss the feasibility of planting trees that would grow taller than those shown on the northeast and east sides of the site (depicted by the simulation of 10 year-old trees at KOP 2) to substantially screen the project from view within 5 years of planting. If there is a concern about the trees growing into the overhead 60 kV power line that would be relocated from the site to run along Lafayette Street and Duane Avenue, please discuss the possibility of placing this line underground in addition to the other lines being undergrounded. If it is feasible to plant taller-growing trees, please provide new simulations for KOP 2 showing the trees at 5 years of growth and at maturity. Please provide high quality 11" x 17" color images.
48. Please provide a conceptual landscape plan (at a scale of 1" = 40') depicting the types and locations of trees, shrubs, and vines proposed to screen the power plant structures and walls consistent with the requirements of the Santa Clara Zoning Ordinance and to mitigate potentially significant visual impacts at KOP 2. The plan should describe the number of plants to be installed and their sizes at the time of planting. The plan should also describe the growth rate and times to maturity of the plant species selected, as well as their height at 5 years and at maturity.

BACKGROUND

In the AFC (§8.13.2.3 pg 8.13-4) and the Data Adequacy Supplement, the Applicant has noted that they will use a plume abated cooling tower design; however, the AFC does not have sufficient description and technical specifications for the plume abated tower, or plume modeling information for the plume abated tower, for staff to confirm the conclusion that visible plumes will not form except under the most extreme conditions. Staff requires additional information regarding the plume mitigation design features of the cooling tower and the applicant's plume modeling analysis.

DATA REQUEST

49. Please provide a brief description of the cooling tower plume abatement design; please confirm the "design point" for the plume abated cooling tower (noted in the Data Adequacy Supplement to be 35°F and 85% relative humidity) that describes the ambient condition limits at which visible plumes may start to form; and if available, please provide a plume fogging frequency curve for the plume abated tower design (an example of a plume fogging frequency curve is attached).

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50. For staff to conduct a modeling analysis of the plume abated cooling tower exhaust, please at a minimum provide cooling tower operating data to fill the following table (Please note: this data request is not required to be answered if a plume fogging frequency curve is provided as part of the response for the proceeding data request). The values provided in the table must correspond to maximum heat rejection operating conditions at the specified ambient conditions.

Ambient Condition	Exhaust Velocity (m/s)	Exhaust Flow Rate (lbs/hr/cell)	Moisture Content (% by weight)	Exhaust Temperature (°F)
30°F, 80% RH				
30°F, 60% RH				
30°F, 40% RH				
40°F, 80% RH				
40°F, 60% RH				
40°F, 40% RH				
50°F, 80% RH				
50°F, 60% RH				
50°F, 40% RH				

Please note that staff intends to model the plume abated cooling tower using hourly estimated exhaust conditions based on the hourly ambient conditions of the meteorological file used to perform the modeling. The cooling tower exhaust conditions will be interpolated based on the exhaust values given. Therefore, additional combinations of temperature and relative humidity, if provided by the applicant, will be used to more accurately represent the cooling tower exhaust conditions.

51. Please indicate if the applicant is willing to stipulate to a condition of certification that specifies the level of plume mitigation as described above, or has any comments regarding such a condition. Staff expects to write a condition of certification similar to that provided for the Russell City Energy Center plume abated cooling tower.
52. Please provide electronic copies of the Moffet NAS meteorological data, processed data and raw data, used by the applicant in conducting their plume modeling assessments. Please provide the following additional information: source of the meteorological data (i.e. National Climatic Data Center or other agency), anemometer height, and station location in latitude and longitude.

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Technical Area: Soil and Water Resources

Author: Antonio Mediatì

BACKGROUND

The proposed 122-megawatt Pico Power Project (PPP) will consist of a natural gas-fired combined cycle power plant, and will require approximately 1,057 AF/year of tertiary treated reclaimed water supplied by the San Jose/Santa Clara Water Pollution Control Plant (WPCP) to support facility operation. Potable water will be supplied by the City of Santa Clara through a new connection to an existing 12-inch supply line. Wastewater will be discharged to the City of Santa Clara Sanitary Sewer existing treatment facility through a new 900 foot 18-inch pipeline connecting to an existing 27-inch sewer line. Back-up water will be supplied from a new well to be constructed on the project site.

The AFC and Supplement provides a minimal evaluation of alternative water source, discharge and cooling methods.

DATA REQUEST

53. Please provide and estimate of the reliability of the WPCP, including, but not limited to:
 - a) Any reasons why the WPCP would be unable, even temporarily, to supply the project;
 - b) How frequently such interruptions in service are likely to occur and the expected duration of such interruptions.
54. Please provide additional information on the proposed back-up water supply well. Including, but not limited to:
 - a) Ownership of the new well;
 - b) Specifications of the new well;
 - c) A list of all projects and users to which the well will supply water;
 - d) Estimated average and maximum annual volume to be pumped from the well;
 - e) Estimated average and maximum annual volume to be pumped from the well for the PPP;
 - f) Aquifer depth and water quality data for the aquifer from which the water will be withdrawn.
55. Please provide additional information of the groundwater supply, including, but not limited to:
 - a) A groundwater balance;

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- b) Current and historic groundwater elevations for the basin;
 - c) Current, historic and projected groundwater recharge volumes;
 - d) Current and historic saltwater intrusion into the basin;
 - e) Estimated effects of pumping on saltwater intrusion, movement of saltwater or contaminated plumes, impacts to other wells and subsidence.
56. Please provide a copy of a long-range master plan for water.
57. Please provide information on the current and estimated future water supply and demand in the basin for the life of the project.
58. What will be the source and demand of landscaping water for the Project?
59. Please provide additional information on the proposed wastewater disposal system, including, but not limited to:
- a) Capacity and current volume of the existing 27-inch sewer line;
 - b) Estimated maximum current volume of the existing 27-inch sewer line;
 - c) The capacity and current volume of the next sewer line downstream of the 27-inch line and any potential bottlenecks between the 27-inch line and the treatment plant;
 - d) The policy regarding cost sharing of line upgrades.
60. Because the project proposes to use fresh water for cooling water backup, Staff must examine whether options are available for this demand, such as use of degraded water in the upper aquifer as opposed to higher quality water in the deeper aquifer. Please provide a detailed feasibility and environmental impact analysis regarding alternative water supplies, cooling methods and waste disposal in comparison to the proposed options. The analysis should include, as a minimum:
- a) impacts on water use, other users and waste discharge in comparison to those currently proposed for the project;
 - b) all economic factors considered (such as capital and operating costs including water purchase and infrastructure price; efficiency losses and economic impacts; etc...) and all assumptions and or vendor data to support these estimates;
 - c) changes in plant and linear facility infrastructure required to support each technology;
 - d) plant efficiency and output calculations and assumptions for each alternative considered;

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- e) analysis to support determinations on environmental impacts (particularly land use, biological and cultural resources, agriculture and soils, geologic hazards, traffic & transportation and water resources); and
- f) All information sources and appropriate references.

BACKGROUND

The drainage facilities will be designed to convey the 10-year storm event flow. The proposed drainage lines will connect with the existing fifty-four inch diameter storm drain located in Pico Way. The PPP site development will result in a net increase in surface water run-off of 0.24 cfs (10-year storm) and 0.35 cfs (100-year storm).

DATA REQUEST

- 61. Please provide information on the capacity of Santa Clara's storm water collection system that will receive drainage from the PPP in relation to the expected increase in peak flow for a 100-year storm event.
- 62. Please provide a preliminary construction Erosion Control Plan with associated construction monitoring programs showing conceptual design and locations proposed for temporary BMPs for erosion control during construction.
- 63. Please provide draft Stormwater Pollution Prevention plans for construction and operation of the PPP.
- 64. Please provide drainage plans with proposed contours showing existing and proposed watershed areas, drainage channels, peak discharge rates and volumes at key concentration points, and conceptual design and capacities of the proposed conveyance systems, erosion control features, and holding tanks. The contact and non-contact water drainage systems and design should be clearly differentiated in terms of location, watershed area, drainage conveyance design, storage system design, peak flow rates and runoff volumes. The plan should include post-development storm water discharge rates and volumes for contact and non-contact areas for the 5, 10, 25- and 100-year recurrence intervals. Provide a description of how frequently runoff volumes are expected to exceed the capacity of the drainage system or holding tanks, and how excess runoff will be accommodated and prevented from carrying contaminants off-site in the event of storms in excess of the drainage or storage capacity. Please provide a narrative description as well as conceptual plans and design details with all back-up hydrologic and hydraulic calculations used in developing the drainage concept design.
- 65. Please describe the existing off-site drainage where storm water will be discharged, clearly indicating its location in a drainage plan, and characterizing its capacity to carry storm water in relation to pre and post-development flows. Include any sediment controls in the system as well as clean-outs and monitoring plans.